

**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA,  
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION,  
DEPARTMENT OF INDUSTRIAL & TECHNOLOGY EDUCATION,  
SECOND SEMESTER 2017/2018 EXAMINATION.**

**COURSE CODE: - ITE 381**

**COURSE TITLE: - WELDING PROCESSES.**

**TIME ALLOWED: - 2 HOURS.**

**INSTRUCTION: - ATTEMPT FOUR (4) QUESTIONS ONLY.**

- 1(a). What are the causes and remedy of the following welding defects?  
Porosity, under cut, Blow holes, Overlap, and lack of penetration.
- b. Outline five (5) precautions to be observed when dealing with arc welding equipment.
- c. Draw the following five (5) basic kinds of weld joints: Butt, Corner, Lap, Tee, and Edge.
- 2(a). What are the five (5) relevant precautions to be observed when using oxy-acetylene welding equipment?
- b. List and explain four (4) basic equipments that can be found in oxy-acetylene welding apparatus.
- c. Why is it necessary to cock the cylinders?
- 3(a). Describe the process of tinning in soft soldering.
- b. Differentiate between brazing and soft soldering.
- c. With the aid of neat diagrams differentiate between hatchet bit and straight bit.
- 4(a). Clearly differentiate between Tungsten Inert Gas (TIG) and Metal Inert Gas (MIG) with specific reference to their applications.
- b. Outline five (5) advantages of plasma welding techniques.
- c. What are the causes of backfire in oxy-acetylene welding?
- 5(a). With the aid of neat sketches show the following types of joints used for soldering: Lap seam, joggle seam, grooved seam, single seam and double seam.
- b. Differentiate between open circuit voltage and arc voltage in electric arc welding.
- c. Outline and discuss the three (3) cleaning methods recommended for cleaning containers which are to be welded or cut.
- 6(a). with the aid of neat sketches show the oxy-acetylene welding apparatus.
- b. Differentiate between Straight polarity and Reversed polarity in DC welding machine
- c. Briefly discuss the three (3) welding machines obtainable in Electric Arc welding.

**GOOD LUCK**